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VII. — *On Combination and Adaptation, as illustrated by the Exchanges of Primary and Secondary Suffixes.*

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ALL building-up of grammatical structure in language, all production of forms, or of words having a radical part and a formative part, is carried on by the joint means of combination and adaptation. The beginnings of human speech are roots, or elements possessing no grammatical character—not being one part of speech more than another, nor exhibiting any of those distinctions of office which we mark by inflectional and derivative endings; and this absence of grammatical character is all that makes a root, in the view of the historian of language. No advance beyond the root-condition is, then, possible except by combination: unless, indeed, we are to regard formative endings as having sprouted out from roots; and this involves a theory of language so grossly physical that it may be simply set aside as absurd by those who refuse such a theory. It is also flatly opposed to all observation of the growth of linguistic forms during the recorded periods of language-history. These show by abundant examples how a word originally independent can enter into combination with another word, and finally become a mere modifying element in the structure of the latter; and they do not show that words win new elements of structure in any other way. It ought to be clearly seen and acknowledged, therefore, that those who reject this explanation of structural growth do it in virtue of denying the scientific principle that, in a continuous history of development, the earlier steps of development are to be explained by studying the later and observable steps, and reasoning back from these, with due caution and allowance for the difference of conditions, into the obscurer past. All real progress in linguistic science, however, seems plainly enough dependent on

the acceptance of this principle and its rigorous application. If it be abandoned, one man's guess in matters of language is as good as another's, and the pet theories of one period may be succeeded by those of a following one, without any prospect of an end.

But while there can be no form-making without combination and adaptation working together, their co-operation does not necessarily and always issue in forms. The combinations of roots may still be roots, modified or differentiated in meaning, increasing the vocabulary of a language, but not enriching its grammar, or giving it even the beginnings of a grammar, if it have had none before. In order to make a form, the process of combination must have a peculiar history. There must be a word of specially adaptable meaning, added to and combined with a whole body of other words, and impressing upon the latter an identical and apprehensible modification of meaning ; then there is created the possibility that this common added element will retain its separateness while losing its independence, and so will assume the *status* of a formative affix, making a class of words or of inflectional forms to which it gives a common grammatical character. This is the plainly traceable process by which have been made in later times the most recent accessions to the stock of formative elements, in languages of which we can follow the history: familiar and especially accessible examples are our English *-ly* (adverb), the French *-ai* (future) and *-ment* (adverb), the Germanic *-d* (preterit), and so on. And our own languages offer abundant examples of processes of combination and adaptation that seem on the way to suffix-making, without actually reaching that end. No one would suspect the word *road* of any formative capabilities, in however many compound words it may be used — as *railroad*, *tramroad*, and so on ; the almost equivalent *way*, however, comes perceptibly nearer to a formative office, in *straightway*, *alway*, *lengthways*, etc., as does *wise* in *likewise*, *otherwise*, *crosswise*, *nowise*, etc. : either of these last might be said to have had antecedently a better chance of becoming an adverbial suffix than the adjective *like*, out of which our *ly* is actually made ; but the chances of lin-

guistic history did not so bring it about. Moreover, out of the different combinations of the same element may be illustrated both the suffix-making and the non-suffix-making processes of combination. Our *like* is formative in words like *manly* and *friendly*, and in words like *truly* and *ably*; but in *such* and *which* (from *so-like* and *who-like*) it is present without any formative value. So *pre* is an English formative, in such words as *pre-existence*, *prejudice*, *pre-adamitic*, and *con* in *conjoin*, *conjuror*, and the like; but they have no shadow of formative force in *preach* (*pre-dicare*), *cost* (*con-stare*), *count* (*con-putare*), of which they are equally a part. Words like *such* and *which* and *preach* and *cost* are, in the proper sense of the term, radical in English speech, just as much as *this* and *mine* and *speak* and *love*; for the fact that our historical knowledge chances to put it within our power to analyze the former set one stage further back, pointing out the last process of combination and fusion they have undergone, makes no essential difference; no reasonable person will hold that the other set go back as roots to the ultimate period of human speech-history, or that they too are not the products of a combination, only of one that lies too far in the past for us to trace out. Many (perhaps even most) linguistic scholars appear to be under the impression that, when they have dissected out and demonstrated the roots of a given language, they have come to the foundation, and established something really original. But that is far enough from being the case. In all probability, there lies behind us in the history of language such an immeasurable unknown past, that between the roots of English and the Indo-European roots there is but a trifling difference in point of originality. In every language, new roots are constantly being wrought out or brought in, and invested with just that amount of formal variation (if any) which the language has at the moment at its disposal; the new material is assimilated to the old; and, after a time, no one can tell which is new and which is old.

Indistinct views upon such points as these lead to serious errors in regard to linguistic history. For example: a philologist of high rank and great achievements (Lepsius), some

years ago, recalled and urged attention to the fact, not unknown before, that evidence preserved in the literature and dialects of Chinese proved the monosyllabic root-words (as they had been generally viewed) of that language to have once had a fuller phonetic form, showing plentiful signs of final consonants where now there are none, which final consonants might perhaps be the relics of second syllables ; and he proceeded at once to draw the inference that the Chinese is not a root-language, that it has behind it a career of grammatical development, and that its words of one syllable are only worn-out forms, like those, for example, of which the English is so largely made up. And these conclusions have been taken up and pressed since by other scholars, some of whom have even appeared to think that in them lay the final and irrecoverable overthrow of the root-theory of language. Yet nothing can be plainer than that they find no sufficient support in the facts on which they profess to be founded. To give them any substantial value, it must be shown, first, that there are no languages having final vowels or even second syllables to their roots while yet destitute of grammatical structure ; or, secondly, that the Chinese finals have a demonstrable formative value ; or, thirdly, that the grammatical character and use of Chinese monosyllables is so closely analogous with that of English monosyllables as to compel us to postulate behind the former a formal development such as we know to have preceded the latter. Those who comfortably accept and repeat the Lepsian theory without concerning themselves about these three difficulties that lie in its way, or trying to remove them, cannot expect that their advocacy will count for much in its favor. Any real and seriously conducted argument to show that the Chinese was not always so jejune as it now appears, but once possessed a system, however scanty, of formally expressed grammatical distinctions, will be received with respect and a hearty welcome by all who are interested in the history of language ; I am not aware that any one has ever attempted such an argument. Of a language possessing in its roots final consonants and second syllables in which no grammatical value has been found traceable, we could not well have a more

striking and more dignified example than the ancient Egyptian, the language of the hieroglyphs; if nevertheless they are roots, why should the Chinese elements of similar phonetic constitution be assumed, in anticipation of any proof to that effect, to be grammatical forms? There are very fair phonetic reasons for holding the theory that all dissyllabic roots, or roots even with final consonants only, are and must be the result of combination; the theory may be some day raised to the value of an established principle; but it will then still remain to be determined in any particular case, by evidence, whether the combination was or was not of a grammatical nature.

Again, while adaptation is a necessary aid to combination in the process of form-making, since mere agglutination can never make forms, it is by no means limited to this department of action. On the contrary, it is an element of universal presence and efficiency in all language-history, in languages of every period and grade of development, and in every part and parcel of their material. Accompanying combination, it sometimes leads to the possession of forms; acting by itself, it sometimes provides means of another kind by which the purposes of forms are answered. The same element, meaning 'set' or 'make,' which in combination yields the *d* of *loved*, in independent adaptation becomes the *did* of *did love*; the same element, meaning 'seize' and 'possess,' which in combination becomes the *ai* of *monterai*, 'shall mount,' in independent adaptation takes the two very diverse offices instanced in *ai à monter*, 'have to mount,' and *ai monté*, 'have mounted.' The whole store of auxiliaries and form-words is won in no other way than this, whether used, as in our family of languages, to supplement the resources of formal expression, or, as in some other families, to supply their place. Grammatical classes of words are thus made, which may rise, and in fact not seldom do rise, to the value of "parts of speech." Thus certain demonstratives and numerals (either with the fortuitous aid of phonetic divarication of form, as in English, or without it, as in French and German) are turned into "articles"; thus interrogatives and demonstratives become "relatives"; thus adverbs either add or substitute the value of

“prepositions”; thus “conjunctions” are made, out of materials of no small variety—and so on through a long catalogue. The same adaptation is seen in phrase-making, of every period, from what is obsolescently formal, like *come to pass*, down to colloquialisms and slang, like *knock under* and *give away*; it is seen in the elaboration of a moral and intellectual vocabulary out of the physical; it is seen in the whole refining process by which a language is made throughout capable of other, higher, and more varied uses. Its possibility rests on the fundamental character of language as a body of conventional signs, which can be indefinitely turned to new purposes by its users, and which must be so turned, if its users have any new purposes to serve. It is inseparable from the life of all language, and is the most pervading and intimate expression of that life. In a language without structure, like the Chinese, it gives the distinction of “full” and “empty” words (which is what in Chinese comes nearest to the distinctions of inflective speech), and it supplies the immense variety of meaning and application out of which the general make-up of the sentence allows the intended meaning in the given case to be selected by the quickly apprehending mind.

To imagine that, because adaptation thus performs an important part along with combination in developing the structure of an inflective language, and because in a structureless language it produces a sort of *succedaneum* for structure, it therefore is by itself capable of producing structure—so that, for example, the question can be raised whether “agglutination or adaptation” is the efficient principle in Indo-European development—is wholly wrong, and argues a most imperfect comprehension of the facts of language. Form-making by simple adaptation is an absurdity; adaptation can only assign the products of combination to new and further differentiated uses, even as it exercises this power over the radical elements themselves in such cases as that just referred to. It is easy to sketch the main features of its action to this effect in Indo-European language-history. The earliest probable example is the distinction of pronominal from so-called verbal roots; this appears to have been the result of a gradual attenuation

and dissimilation of meaning, prior to all formal development, and analogous with the Chinese distinction of "empty" from "full" words. Of much later examples, one of especial importance is the gradual differentiation of the noun into noun-substantive and noun-adjective, or noun and adjective; for their distinction has no formal foundation, and is posterior to the complete establishment of noun-inflection. Hence comes the "concord" of the adjective with its substantive; this is no result of a specially delicate "sense of form" in Indo-European speakers — as, indeed, any such explanation of language-facts is mere sentimental fancy; there is always something concrete and palpable at the base of them. Another example is the distinction of adverbs from case-forms (as explained by the author before the Association two years ago: see the Transactions for 1882). Others are the distinction of infinitives and participles from ordinary nouns and adjectives, and those already referred to above, of conjunctions, of articles, of relatives, and the like. When these are subtracted, there remains of the formal structure of the languages of our family only verb-inflection, noun-inflection, and the apparatus of stem-making suffixes. Original identities and gradual differentiations by usage are to be suspected here also, and even back to the very beginning, when predicative forms or verbs were first made. The difference even of noun and verb, the most fundamentally important in Indo-European grammar, may be a matter of differentiated use, in combinations of originally identical value: as in some languages of less developed structure, like Egyptian and Turkish, in one and the same combination, the pronominal ending is now possessive, conditioning a noun, and now subjective, making a verb. Nor is it at all improbable that the earliest suffixes of derivation and of inflection were the same thing, with two faces or aspects of value, little as we may be able to do in the way of proving it. Upon all such points, light is to be expected rather from the study of ruder tongues than from any perfecting of the processes of historical analysis as applied to our own tongues; because, in the latter, original processes are too much covered up under later accretions.



When the roots of a language have once been clothed throughout with formative elements, or made into forms, no further provision of formative elements is possible except by additions to such forms — that is to say, all new endings will be of secondary character. Thus, for example, such a form as *monterai* can be made only by combining the auxiliary *ai* with the form *monter*, not with the root itself ; and here, throughout the whole formation, the infinitive *r* happens to remain, to betray the origin of the tense. A like thing is unquestionably true of the combination with *did* which makes *love-d*, though even in the earliest Germanic nothing is left to show clearly what the form was to which the auxiliary was added. But *monterai* has come to seem to the users of the language as direct a formation from the root *mont*, with added tense-sign and endings, as, for example, *montasse* — which, indeed, is in all probability by origin another case of the same kind, only so much older that the historical student of language can no longer trace its genesis with anything like the same confidence. When the secondary character of a combination is lost sight of, the combination becomes to all intents and purposes primary, and may be propagated as such. In this way, reduction to primary value becomes possible in formative, as well as in radical elements ; and the semblance of root and immediately added ending, both made out of material of later date, is kept up throughout the whole history of a language. Hence it appears that the distinction of primary and secondary suffixes, however well marked in the main, is after all of the same doubtful and changeable character, dependent on shifting usage, which belongs to grammatical distinctions in general, as abundantly instanced above. This point admits of interesting illustration by a series of secondary formations in Sanskrit, which have won the aspect of primary formations, and are so used in the later or classical Sanskrit.

The most prominent example is that of the gerundives, or future passive participles, corresponding in use quite closely with the Latin formation in *-ndus*. The native Hindu grammar, with its usual carelessness of historical accuracy, describes them as made directly from the root, with the suffixes *anīya*,

*tavya*, and *ya*, and gives rules for the treatment of the root before them: thus, from root *kṛ*, 'do or make,' come *kar-aṇīya*, *kar-tavyā*, and *kār-yā*, all alike meaning 'faciendus.' But such forms as *karaṇīya* are entirely wanting in the oldest Sanskrit, that of the Rig-Veda; they begin to appear, but sparingly, in the second period, that of the Brāhmaṇas (there are two rather doubtful cases in the Atharva-Veda), and grow somewhat more common later, without ever attaining real frequency — although, taking the whole literature together, a respectable list of them can be quoted. And at the start they are palpably and undeniably a secondary formation from the extremely common *nomen actionis* in *ana*, with the added adjective suffix *īya*, making adjectives that signify general pertinence or concernment. Such is the value of no small part of them throughout; and the line between the gerundival and the more ordinary adjective use is in other cases not always easy to draw. Beyond all question, *karaṇīya* is properly to be divided *karaṇ-īya*. The history of the gerundive in *tavyā* is nearly parallel with this: it is unknown in the Rig-Veda, begins with two examples in the Atharva-Veda, and then gains rapidly in frequency, becoming much more common than the formation in *aṇīya*; it differs from this also in never having any other than a gerundival meaning. It is really made from the verbal noun in *tu* (the same from which comes also the ordinary infinitive in *tum*), by addition of the secondary suffix *ya*, before which the final *u* of *tu* is strengthened to *o* (*āu*), and this converted to *av*, as is usual with that final: compare the ordinary adjectives *hanavyā* from *hānu*, *madhavyā* from *mādhū*, *paçavyā* from *paçū*, and the like. The accent *tavyā* (all the examples accented *tāvyā* in the Petersburg lexicons, larger and smaller, are errors) shows that the real form of the secondary suffix is *īa*; and it is, in fact, in all probability originally identical with the *īya* (or, as it appears in other formations, *īya*) which makes *karaṇīya* etc. In the Rig-Veda, which (as already noticed) lacks both these formations, their place is in good measure taken by similar secondary derivatives with simple *a* from the same *nomen actionis* in *tu* from which the words in *tavya* come: thus, *kārtva*

(i. e. *kārtu-a*, and, in fact, requiring so to be pronounced in Rig-Veda verse) = *kartavyà*, 'faciendus.'

The case of the gerundives in *ya* is not so clear, and I have treated it as doubtful in my Sanskrit Grammar; but I am more and more inclined to believe that, as this suffix is palpably secondary in character in the great body of words made by it, so it is also in the rest; and that even where it has most of a primary aspect, this is only illusive. To classify and discuss here its diversified uses is unnecessary; the other examples are enough to establish the point desired to be made: that the gerundive formation in Sanskrit is in the main, if not wholly, a secondary one, and of comparatively recent development. In the later or classical language, however, these endings of compound and secondary origin are treated as primary; and derivatives with *anīya* and *tavya*<sup>1</sup> are made directly from the root, as much as those in *ya*, which have a less demonstrably secondary character, or as those in *ana* and *tu*, which perhaps are after all equally secondary, could we only trace out their history a little further.

Another notable example is that of the suffix *in*. This is, through the whole history of the Sanskrit language, one of the commonest secondary adjective suffixes, signifying possession: thus, *bala*, 'strength,' *balin*, 'possessing strength, strong'; *pucha*, 'tail,' *puchin*, 'having a tail, tailed.' Like several other conspicuous suffixes, and like the great class of possessive compounds, it has won this particular meaning doubtless by specialization from the more general sense of appurtenance. But there is also a considerable class of words made with it, and that even from the earliest period, which are reckoned as primary, and have that aspect, being the grammatical equivalents of present participles, and governing participially an accusative: e. g. *kāmin*, 'loving,' *kāṅkṣin*, 'desiring,' *abhibhāṣin*, 'addressing,' *satya-vādin*, 'truth-speaking.' But it is entirely evident that the suffix is the same in both uses, and that *kāmin*, for example, really means 'having love,'

<sup>1</sup> Of course it follows that Sanskrit derivatives in *tavya* are not to be compared with Greek verbals in *τεος*, as if they were an Indo-European formation — unless, indeed, a like development can be demonstrated for the words in *τεος*.

being made from *kāma*, 'love'; that it admits a participial construction is in accordance with numerous facts in the Sanskrit language, where the distinction between ordinary adjectives and verbal adjectives or participles is much less marked than in most of its kindred, and words of the former class are constantly stepping over into the other. The derivatives *kāmin* and *vādin* and their like can be made, artificially, to come directly from the roots *kam* and *vad*, with suffix *in* and second-grade strengthening of the radical vowel; and in later Sanskrit they are actually so made, because to the users of the language they seem so; the suffix has won a primary value and application; but there are numerous instances in the older language to which that explanation will not apply: for example, *vighanin*, 'slaying,' which can come from the root *han* only through the derivative noun *ghana*; and *garbhin*, 'pregnant with' (also governing an accusative), from *garbha*, 'foetus.'

Again, a well-defined and much-used *nomen agentis* in later Sanskrit is made with the suffix *aka*: thus, *kār-aka*, 'a doer or maker,' from the same root *kr*, 'make,' which has been used in illustration above; it, too, occasionally has an accusative object, like a participle: for example, *mithilām avarodhakas*, 'besieging Mithilā.' But here, again, the formation is altogether wanting in the older language; and as it makes its appearance, one sees clearly that it is produced by adding the general (secondary) adjective-suffix *ka* to a derivative noun in *a*: that is to say, *kāraka* is not *kār-aka*, but *kāra-ka*, 'concerned with making'; and *avarodhaka* is *avarodha-ka*, 'concerned with siege.'<sup>1</sup>

Another case quite analogous with the last is presented by the nearly equivalent suffix *uka*. This is, however, peculiar in regard to its range in the history of the language. Wanting in the earliest period (there is a single example of it in the Atharva-Veda), it is also quite rare in the later language, while it is a frequent and characteristic formation of the in-

<sup>1</sup> Hence is seen the worthlessness of Müller's explanation of the Germanic word *king* etc. as the correspondent of Sanskrit *jan-aka*, 'father': as if *aka*, which is not even so old as early Sanskrit, could be dealt with as an Indo-European suffix! The anachronism it involves is so palpable, that the etymology can only be called a blunder.

intermediate or Brāhmaṇa literature, being made from over sixty roots there, and not at all infrequent of occurrence, with the value of a present participle. That it is, however, of secondary and compound structure, is not to be questioned ; it comes by addition of *ka* (the same as seen in *aka*) to a derivative in *u*. Adjectives in *u*, with the same participial value, are made in Sanskrit in considerable numbers ; but, by a peculiar limitation of use, they come in the main from secondary conjugation-stems, especially desiderative ; whereas the words in *uka* are made from the base of primary conjugation, and those in *u* from which they are made can only in a few instances be pointed out in independent use.

Other examples of the same kind could be brought forward, yet less clear and instructive than these — which, then, may suffice for their purpose. They show that the analysis of suffixes into simpler elements, in which comparative philologists often indulge, has a historical basis and justification ; they show, also, in what way compound suffixes are made : by the addition, namely, of one suffix to a form already ending in another, and then the fusion of the two into one.

Since the general tendency in language is toward fusion and the disguise and loss of original value, it is much easier to illustrate the conversion of secondary suffixes into primary than that of primary into secondary. Yet there are instances of the latter conversion also, more or less completely carried out. In Sanskrit, the suffixes *īyas* and *iṣṭha* make directly from roots comparative and superlative adjectives which have in general no connection except that of association of meaning with any positives ; and the agreement in this respect with the corresponding Greek *ῖον* and *ῖστος* shows that the restriction was a pre-historic one. Yet, as the one of these has become in Latin the ordinary comparative ending, making secondary derivatives from adjectives of every kind, so there are beginnings of such use in Sanskrit also — which might have ended in the same way, if another pair of equivalent endings, *tara* and *tama*, had not by their growing popularity crowded the *īyas* and *iṣṭha* quite out of use as means of making new words.

Another case is that of the suffix *ta*, forming past or passive participles through the whole history of Indo-European language; in later Sanskrit it may be added as secondary suffix to almost any noun or adjective, making derivatives meaning 'possessed of, affected by,' and the like: thus, *gharmita*, 'heated' (*gharma*, 'warmth'); *durbalita*, 'weakened' (*durbala*, 'of little strength'), etc. This use is precisely analogous to that of our own participial suffix *ed* in such words as *blear-eyed*, *four-sided*, *three-tined*; and it has plainly come, in the one case as in the other, through the medium of a much used denominative-verb formation, especially common in its participles, which then have made it seem that any noun-stem may be turned into participial form, whether there be or be not a denominative verb made from that particular stem. But the suggestion of a possible denominative formation lies so near that the conversion to secondary value can hardly be regarded as complete. Such examples merely help to show the uncertain and shifting nature of the distinction between primary and secondary suffixes, as of so many other of the grammatical distinctions of language, all growing together out of the nature of the material of which language itself is composed, as arbitrary and conventional sign-material, ever convertible to new purposes under the exigencies and in obedience to the suggestions of practical use. This is an instance of minor consequence, but it illustrates a truth of widest and deepest significance in the history of human speech.